GRAVITY

2007

GRAVITY

ALICE PAMPHLET N°1

GRAVITY

GRAVITY

ALICE

gravity

london / 2007

EPFL / ENAC / IA / ALICE
atelier de la conception de l'espace
fall semester 2007
dieter dietz, olivier ottevaere, daniel pokora, isabella pasqualini, katia ritz, marc schmit

contents

the london pavilion project

In the first semester of the accademic year 2007/2008 the ALICE students were asked to develop design proposals for a site reactive pavilion for the London Festival of Architecture in June 2008. (www.londonbiennale.org.uk)

A chosen scheme was selected at the end of the semester in Decemeber 2007 through a small design competition within the studio to establish a project team to carry forward the development of the pavilion towards fabrication during the second semester. The pavilion was then erected in London for the biennale's opening on June 20th. See brochure on Overflow.

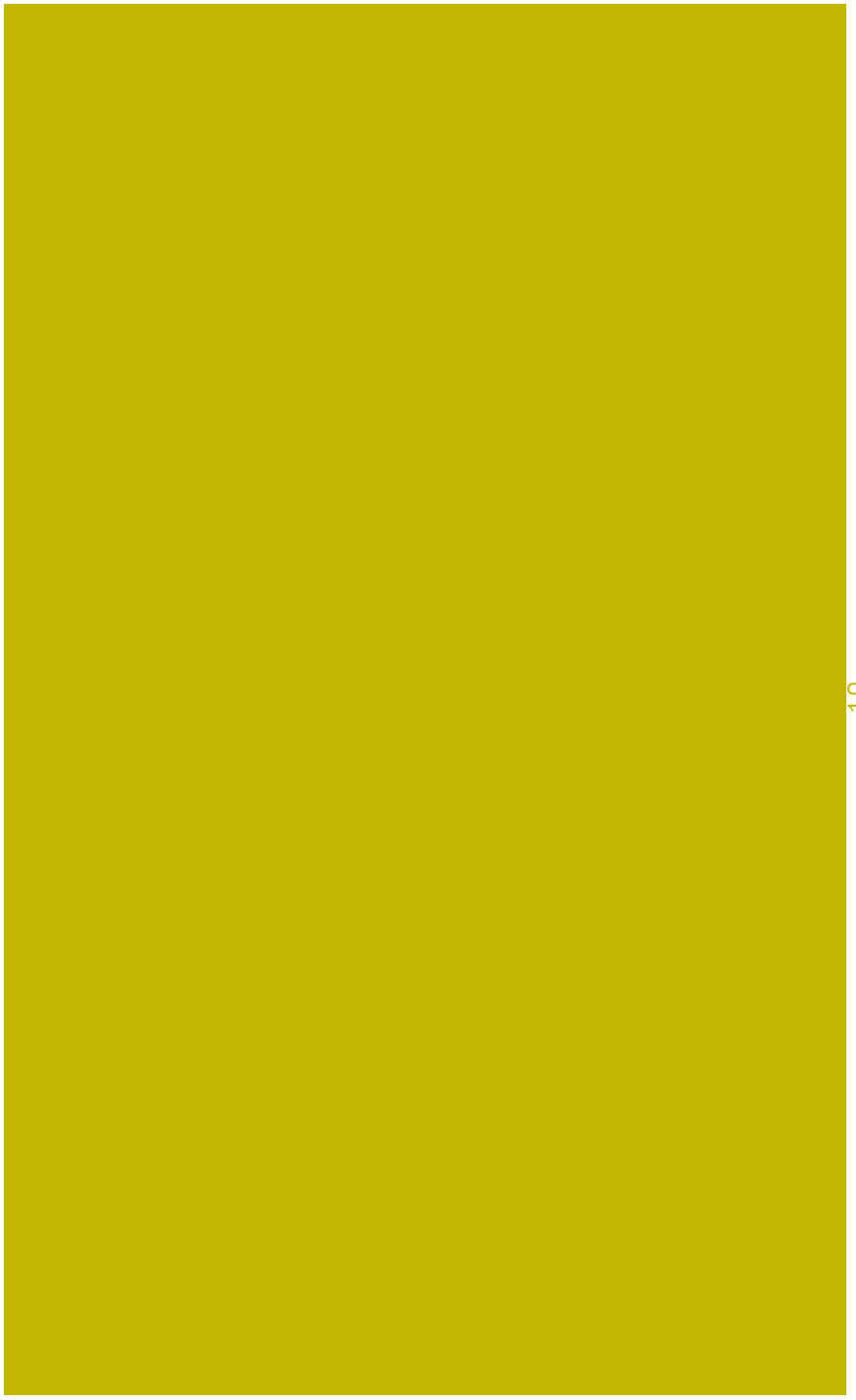
One of the programmatic components for the pavilion was display. The specificities of the sites that the various pavilions were to engage were in accordance with the proposed route from the program of the London Festival of Architecture.

gravity

The studio started by probing gravity and its direct implications in the conception of architecture; gravity initially in a physical and spatial sense, and being observed later in the semester in its social, cultural and political consequences.

Two definitions of interest for gravity:
- The force of attraction, characterized by heaviness or weight (force), by which terrestrial bodies tend to fall towards the centre of the earth (physical).
- Gathering: a group of persons together in one place (social).

For instance, can we speak of gravity without the implications of terms such as: acceleration, velocity, mass, fall/impact, grounding, excavation, centre of gravity, relativity, relations, force (of attraction), weight/volume, structure, matter, material, downward, upward, air resistance, equilibrium, rest...?



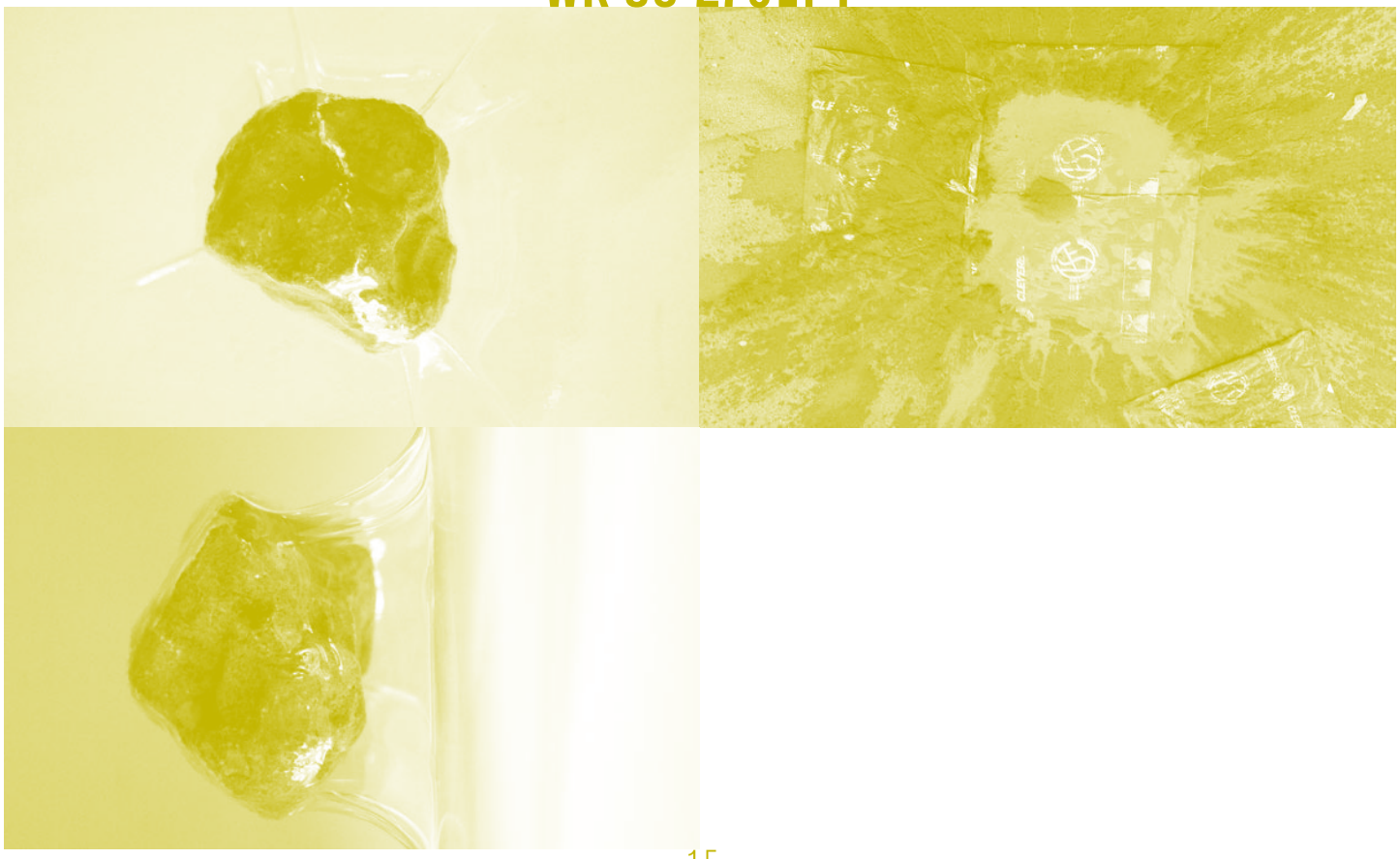
chute libre

The first phase in the ALICE curriculum includes the fabrication of a “physical construct” based on explorations conducted through experiments. This physical construct was to “declare gravity at work.”

WK 38 19SEPT

Physical experiments on gravity from left:
Malaica Cimenti, Lila Held, Adrien Alberti,
Sebastian Hefti, Konstantinos Dell'Olivo,
Ann Madlen Gefeller, Andreas Grubler,
Sandro Tonietti, Nicolas de Courten, Christopher Tan

WK 39 27SEPT

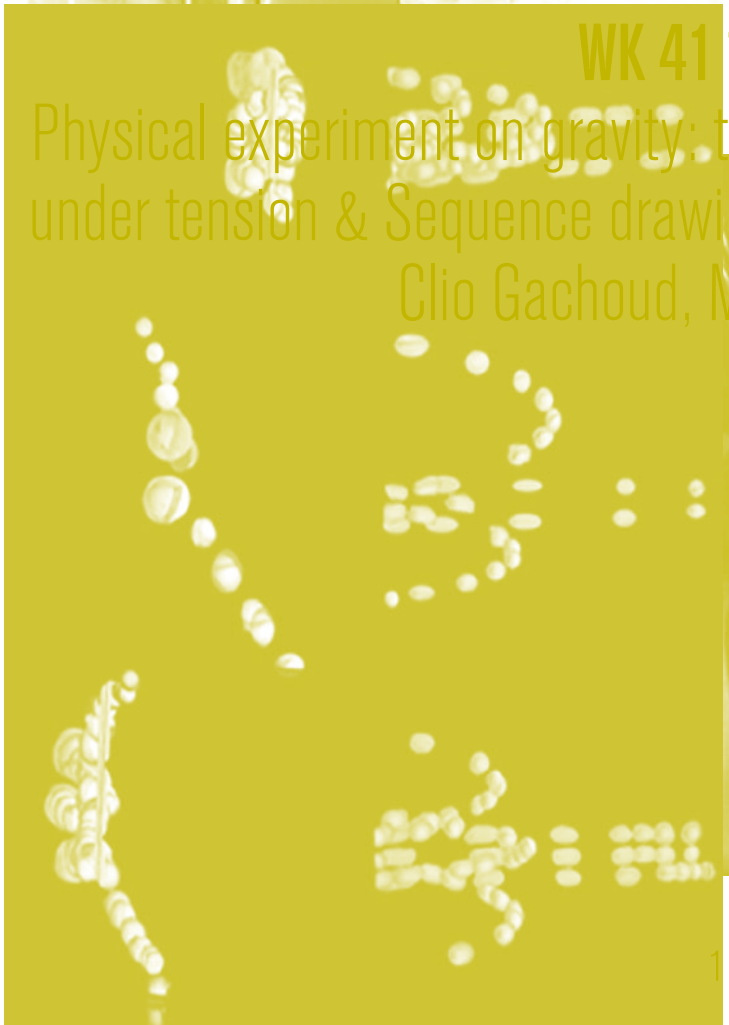


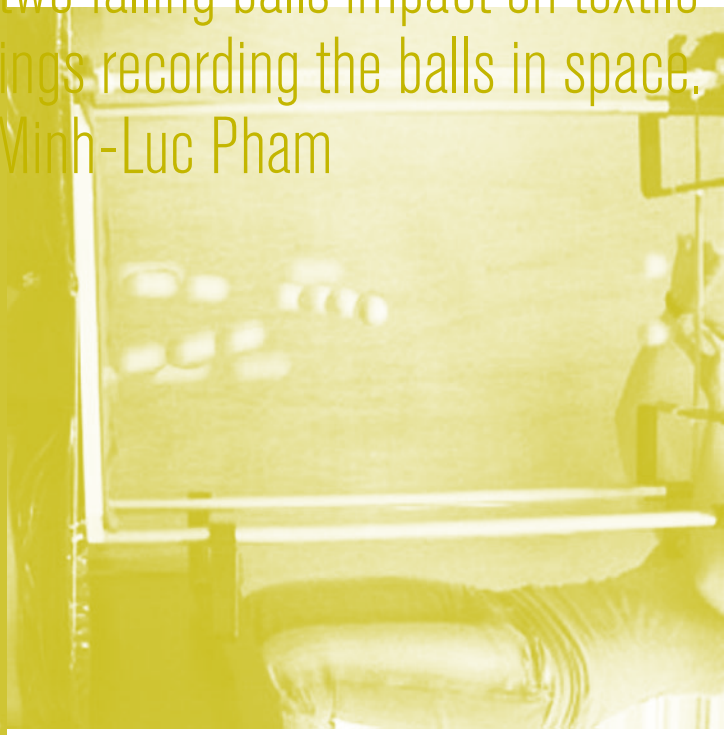
WK 40 030CT

The gravitational impact on falling object and receiving ground was observed as spatial and formal conditions manifested in compressed moments of time. Andreas Bellmann, Sandro Tonietti

WK 41 110CT

Physical experiment on gravity: two falling balls impact on textile under tension & Sequence drawings recording the balls in space. Clio Gachoud, Minh-Luc Pham

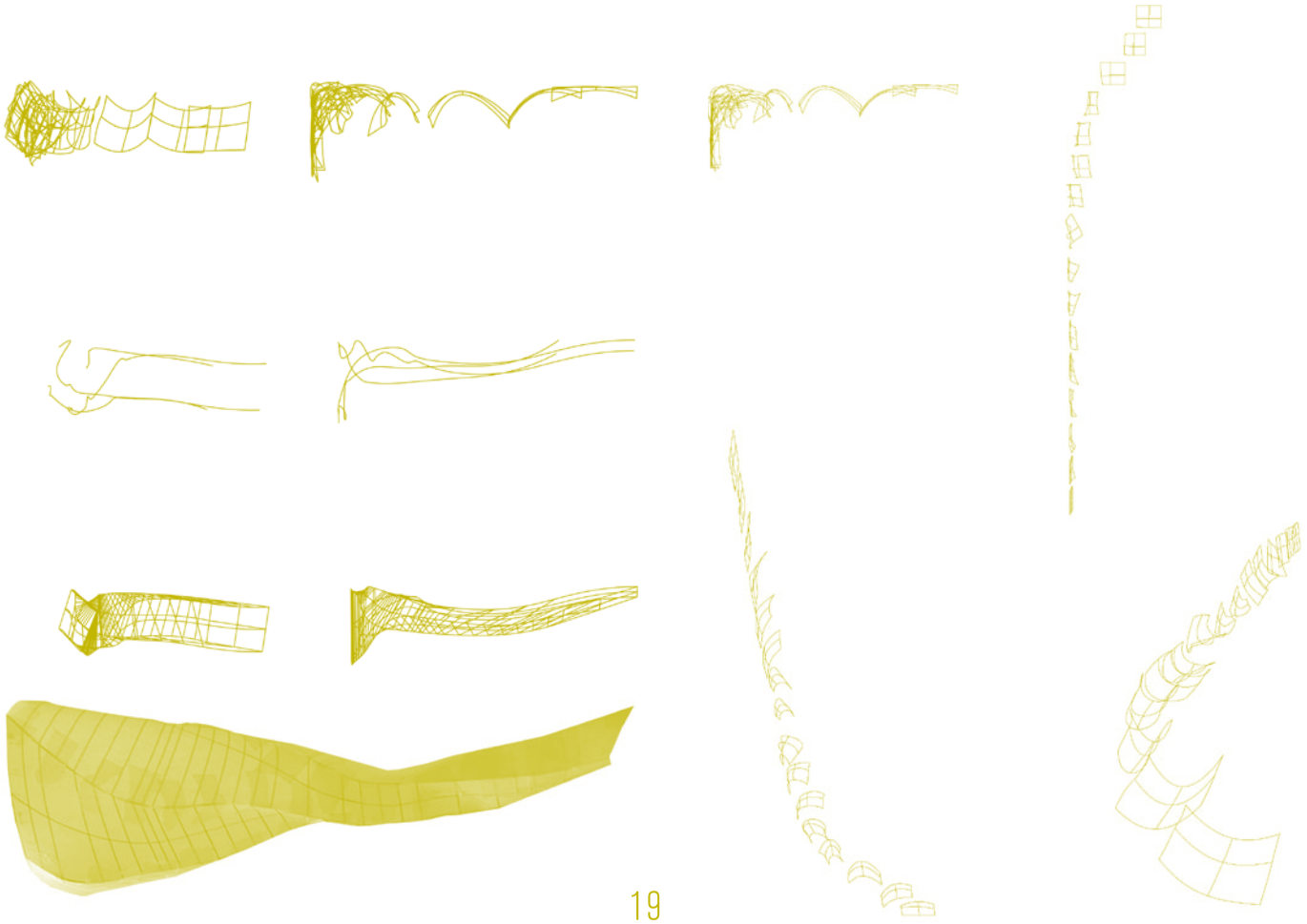




WK 42 17OCT

This project was generated through the tracking of a sheet of paper falling in space. The movements were recorded by 3 cameras and then reconstructed in 3-D software. The trajectories of the four cardinal points of the sheet led to a warped spatial construct, built in thin cardboard, its wrapped geometry locking its form in space and making it a structurally robust artifact.

Augusta Prorok, Bertrand Sauterel



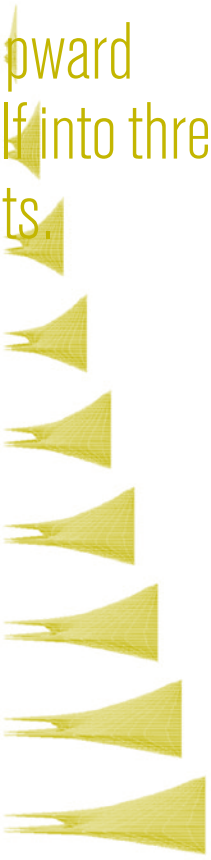
chute libre

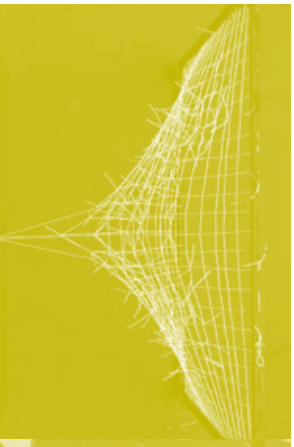
3-D software is implemented as a tool for analysis of spatial conditions and transformations in time. The parallel construction of a physical model and its counterpart in the digital realm fosters an understanding of structures and forces.

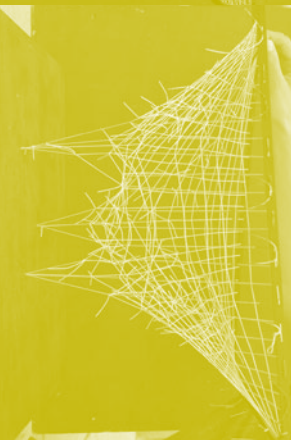
WK 43 25OCT

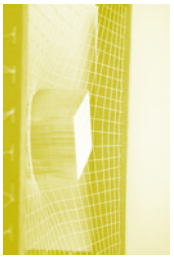
This project investigates how, with an increasing upward force, an initial two dimensional lattice redistributes itself into three dimensional space with some local attachments.

Nicolas De Courten, Christopher Tan



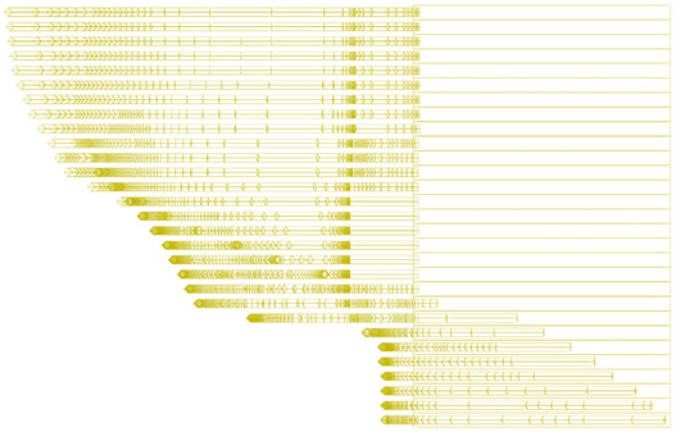






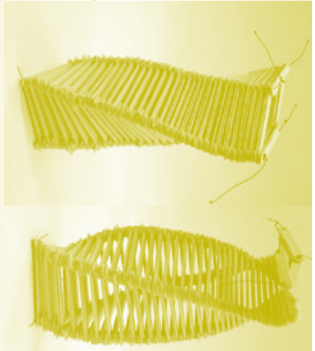
WK 44 31OCT

Analytical sections in drawing and model form of a first profane experiment: a dome of glue, poured over an inflated balloon, collapsed as the balloon was removed. Aurel Martin, Mikael Monteserin



WK 45 08NOV

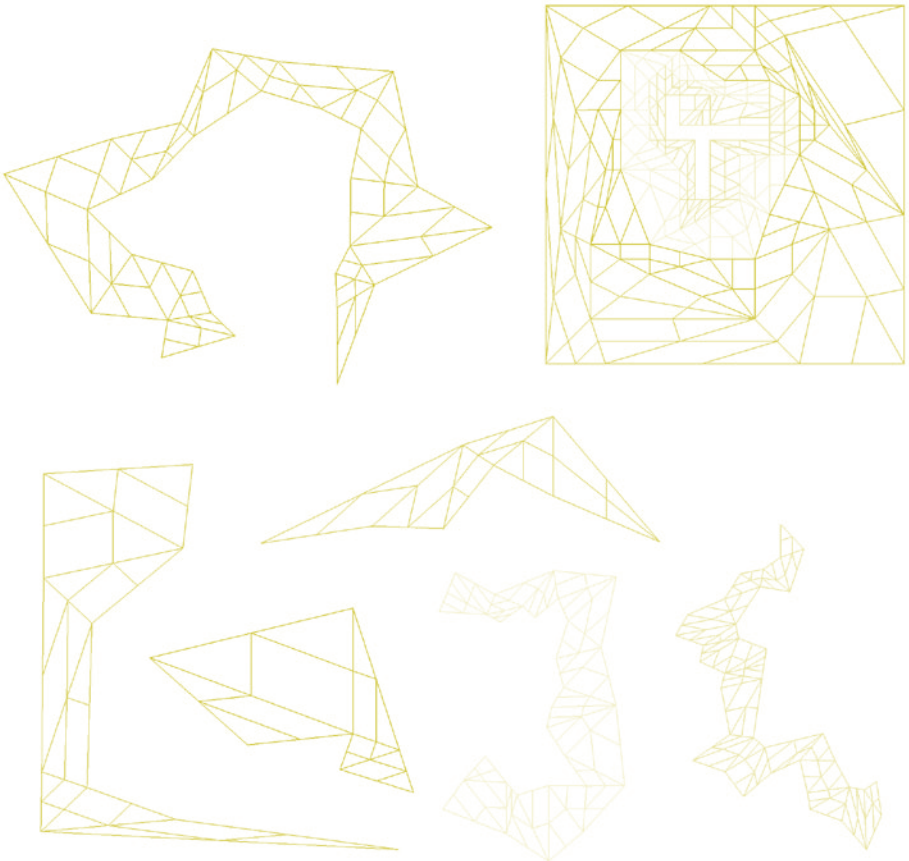
Explorations on how gravity impacts on form above:
Fatma Ben Amor, Aurélie Krotoff
below: Clio Gachoud, Minh-Luc Pham



It is a core idea of the ALICE curriculum to work simultaneously in parallel realms—to develop a project in 3-D software and to test it constantly in physical models, or to draw while at the same time probing material qualities in one-to-one mock-ups. In this approach the design process is constantly challenged by catalyst "reactions" in the respective fields of production.

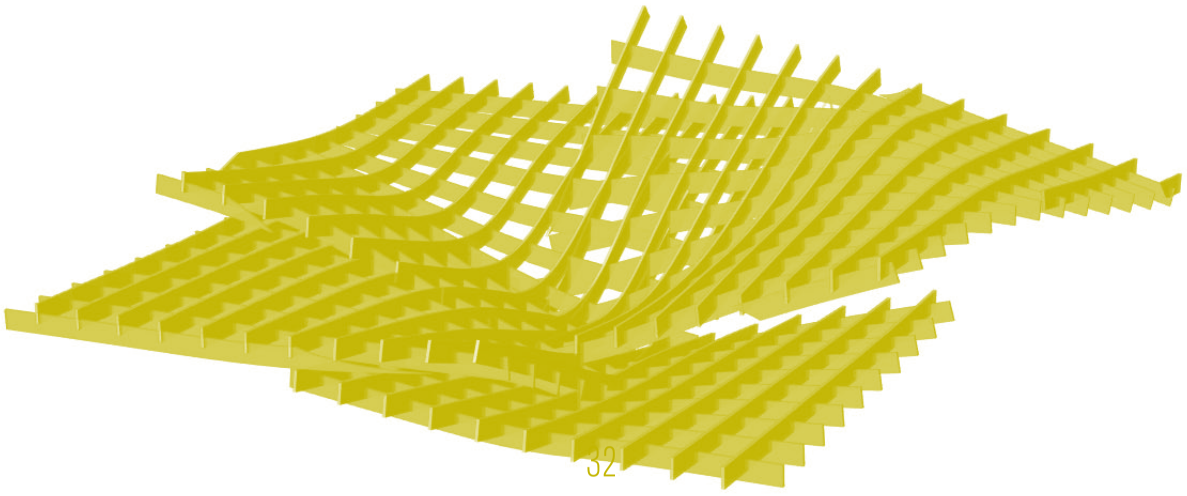
WK 46 14NOV

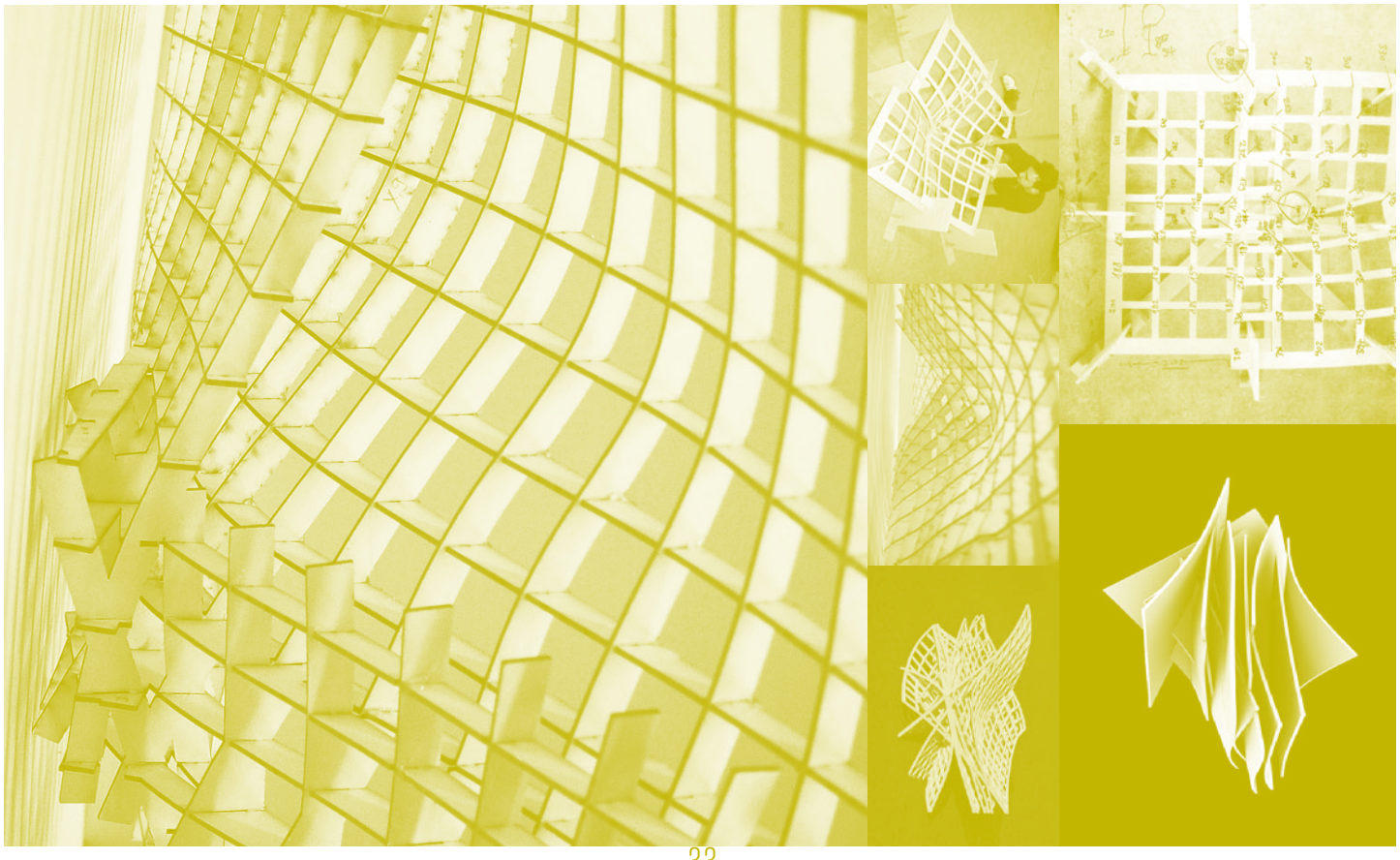
A structure that resists gravity by means of its geometry.
Drawing of templates for the construction of the model.
Nicolas De Courten, Christopher Tan



WK 47 22NOV

This project proposes a physical representation of the spatial impact of a falling object on a series of receivers. In the absence of the falling object, the physical representation registers the temporal aspect of the event while disclosing new spatial encounters. Adrien Alberti, Sebastien Hefti





WK 48 28NOV

Gravity impacts on form. A hanging structure responding to tidal forces along an embankment. Wood structure connected by elastic strips. Fatma Ben Amor, Aurélie Krotoff

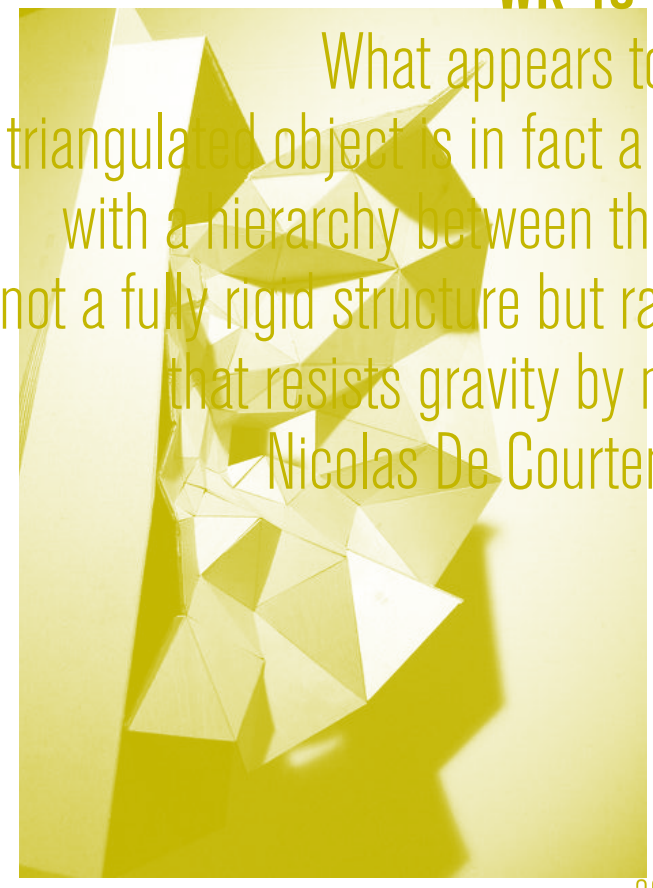
This project is an attempt to reconsider the properties of a brick-wall by introducing a string or cable instead of the mortar commonly used for the joints between the individual bricks. In the place of adhesion gravity itself stabilizes the wall.
Alexander Hertel, Philipp Jakob

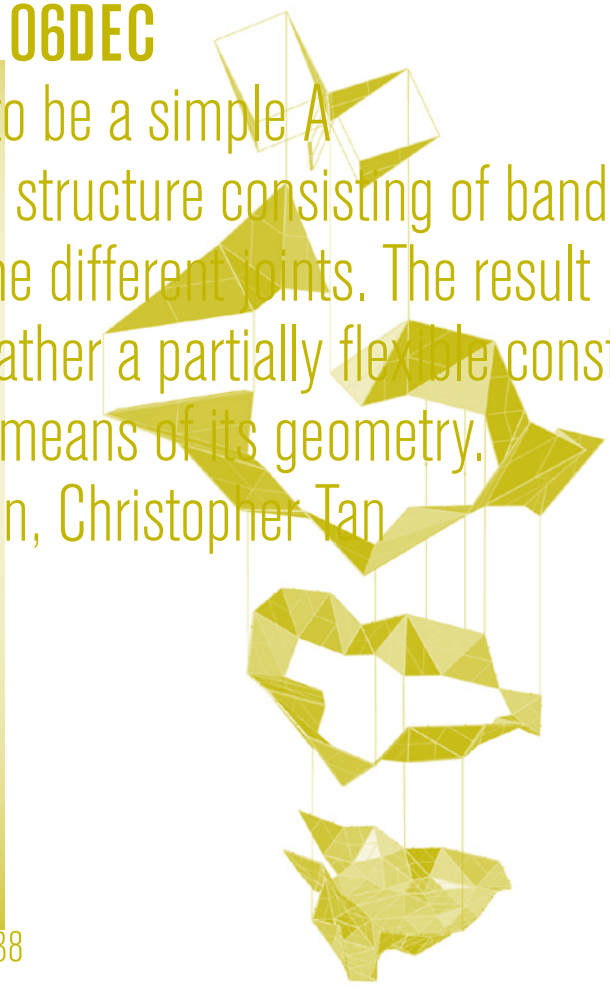
hors champs

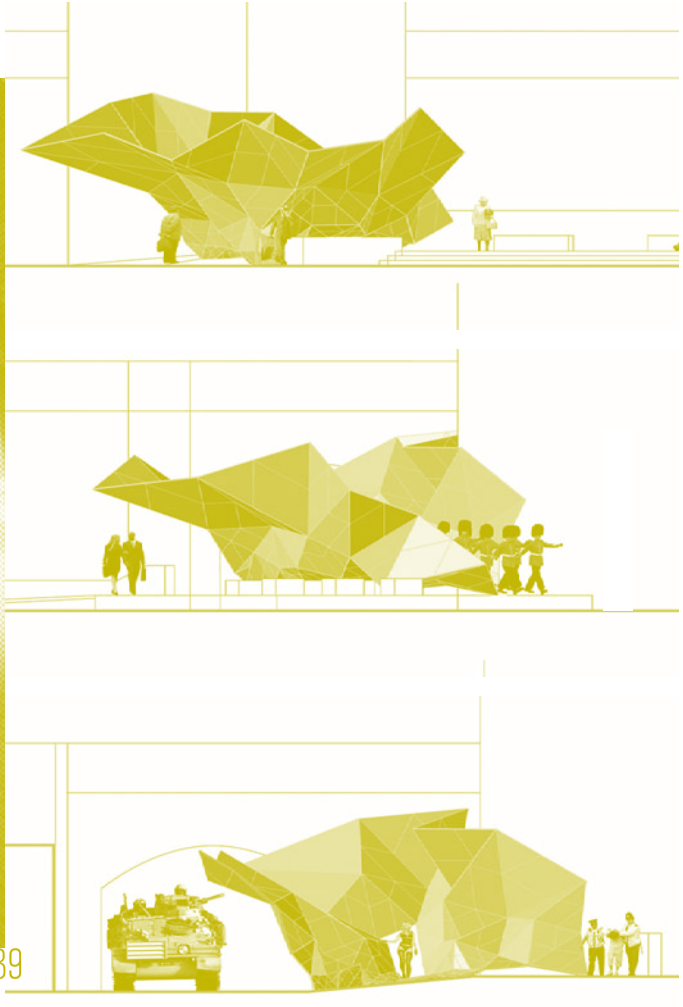
The third phase in the ALICE curriculum tests, transforms, develops and materializes the initial ideas towards a concrete proposal for the pavilion. Scale, material, structure, program, construction details, fabrication and assembly are addressed.

WK 49 06DEC

What appears to be a simple A triangulated object is in fact a structure consisting of bands, with a hierarchy between the different joints. The result is not a fully rigid structure but rather a partially flexible construct that resists gravity by means of its geometry.
Nicolas De Courten, Christopher Tan

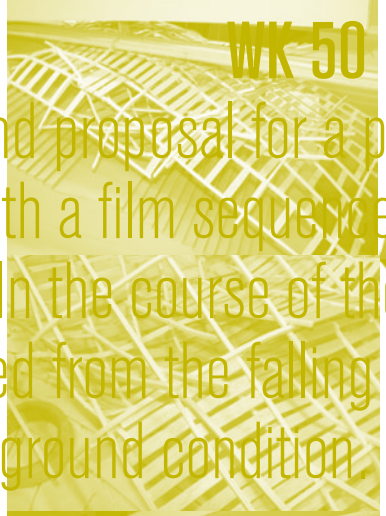


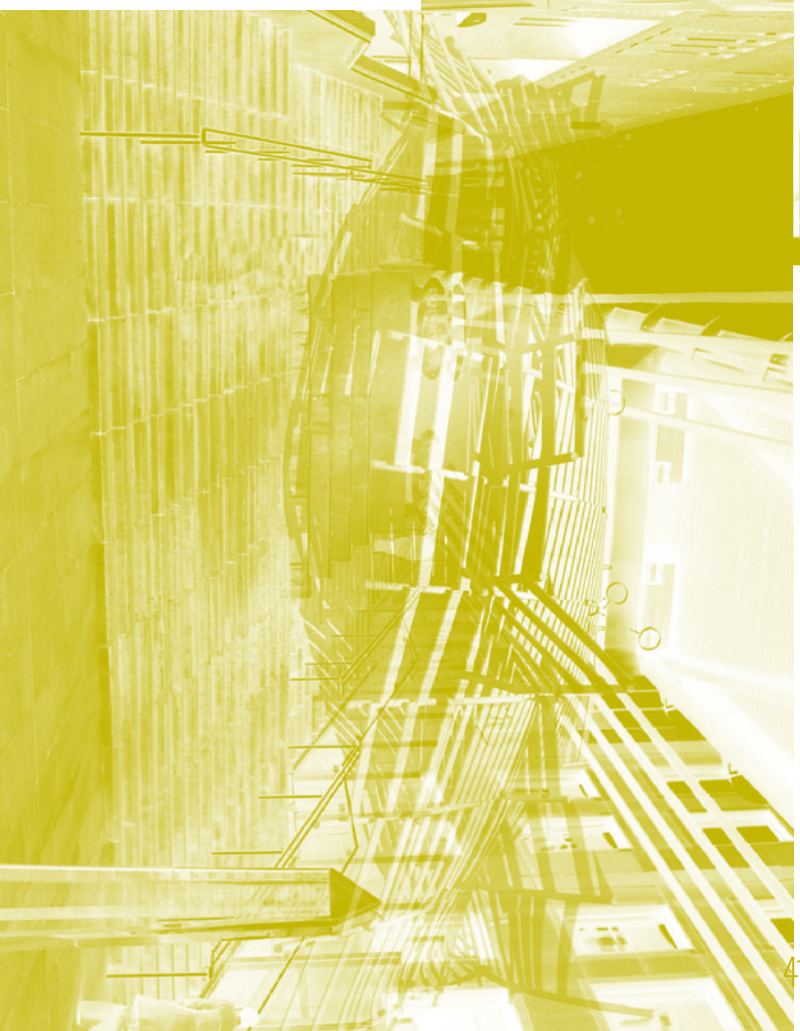


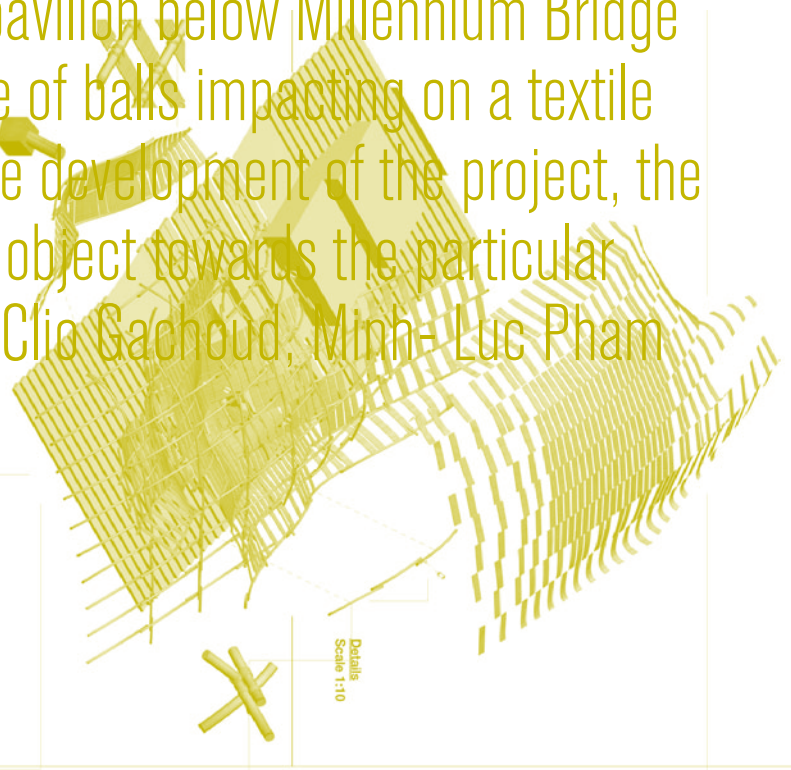


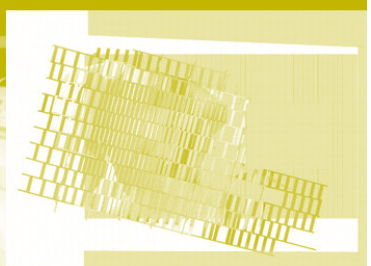
WK 50 12DEC

This project and proposal for a pavilion below Millennium Bridge started off with a film sequence of balls impacting on a textile under tension. In the course of the development of the project, the focus shifted from the falling object towards the particular nature of the ground condition. Clio Gachoud, Minh- Luc Pham





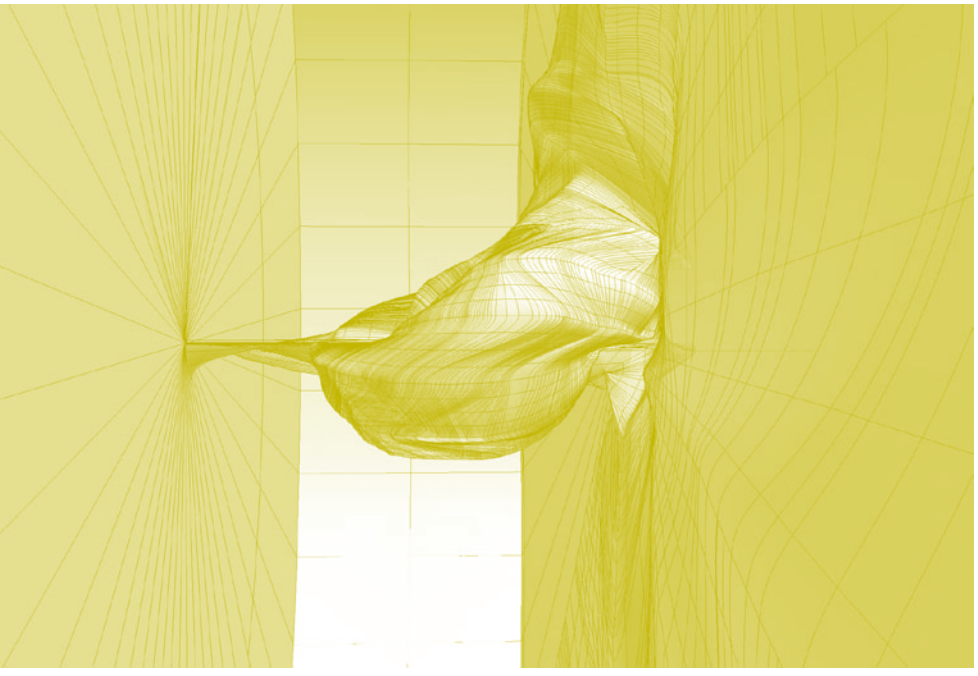


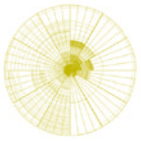


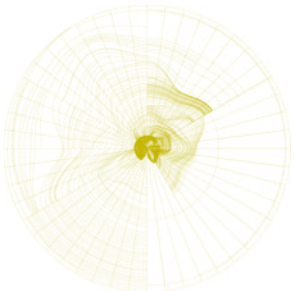
WK 51 19DEC

This project was selected by the jury at the end of the first semester. In an extensive discussion with the group, the decision was taken to directly work with the water surface of the river Thames.

Nathalie Egli, Auguste Michael, Andres Tovar Nuez







team

alice students 2007/2008

Adrien Alberti, Monica Rita Basbouss Moukarzel, Dorette Baumann, Matthias Bellmann, Fatma Ben Amor, Malaïca Cimenti, Esteban Coto Chavarria, Konstantinos Dell'Olivo, Nicolas de Courten, Nathalie Egli, Clio Gachoud, Ann-Madlen Gfeller, Andreas Gubler, Axel Harari, Steffan Heath, Sebastian Hefti, Lila Held, Alexander Hertel, Loïc Jacot-Guillarmod, Philipp Jakob, Aurélie Krotoff, Thaddée Lucan, Aurel Martin, Patrick Meier, Auguste Michaud, Mikael Monteserin, Minh-Luc Pham, Edouard Philippe, Augusta Prorok, Bertrand Sauterel, Christopher Tan, Sandro Tonietti, Andrés Tovar Nuez

alice team

Dieter Dietz, Eveline Galatis, Olivier Ottevaere, Daniel Pokora, Isabella Pasqualini, Katia Ritz, Marc Schmit

booklet, concept and design

Jonas Voegeli, Aline Dubach, Caroline Pachoud (Colour Concept)

acknowledgments

many thanks to

Ivan Beer, Andreas Bründler, Hani Buri, Jean-Pierrre Dürig, Urs Egg, Reto Geiser, Iela Herrling, Adi Heusser, Alex Jaimes, Hieronyme Lacroix, Russell Loveridge, Marc Mader, Ramias Steinemann, Isa Stürm, Dieter Vischer, Yves Weinand for inspiring critics and discussions.

special thanks to

Marc Parlange, Doyen ENAC EPFL; Giorgio Margaritondo, Vice President EPFL; Nicolas Henchoz, Director EPFL+ECAL lab; Ines Lumunière, Director SAR, EPFL; Bruno Marchand, Director IA, EPFL; Luca Ortelli, Former Director, SAR EPFL; Eveline Galatis, ALICE lab EPFL; Anne Markey, London Met University, NASF coordinator; Robert Mull, Director DASD London Met University; Pippa Gueterbock, Associate Director EDAW; Sarah Ichioka, Director The Architecture Foundation; Donald Hyslop, Director's Office, Tate Modern; Alistair Huggett, Southwark Council for their wide spread support.

EPFL
ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

http://
alice.epfl.ch